CLAIMS

What is claimed is:

1. In a Home Agent supporting Mobile IP, a method of establishing communication between a Mobile Node and a Home Agent, comprising:

receiving a registration request packet from a Mobile Node, the registration request packet including an IP source address and a Home Agent address;

detecting from the registration request packet when network address translation of the IP source address has been performed; and

when it has been detected that network address translation of the IP source address has been performed, setting up a tunnel between the Home Agent address and the IP source address.

2. The method as recited in claim 1, wherein the registration request packet further includes a care-of address, and wherein detecting from the registration request packet when network address translation has been performed comprises:

determining whether the IP source address is equal to the care-of address;

wherein network address translation has been performed when the IP source address is not equal to the care-of address.

3. The method as recited in claim 1, wherein the registration request packet

further includes a direct encapsulation bit and a care-of address, and wherein detecting from the registration request packet when network address translation has been performed comprises:

determining whether the IP source address is equal to the care-of address; and

determining whether the direct encapsulation bit is set;

wherein network address translation has been performed when the IP source address is not equal to the care-of address and when the direct encapsulation bit is set.

4. The method as recited in claim 1, wherein the registration request packet includes a direct encapsulation bit, the method further comprising:

determining from the direct encapsulation bit whether the Mobile Node has a collocated care-of address;

wherein setting up a tunnel between the Home Agent address and the IP source address is performed when the Mobile Node has a collocated care-of address.

5. The method as recited in claim 1, further comprising:

determining whether the registration request packet has been received from a Foreign Agent;

wherein setting up a tunnel between the Home Agent address and the IP source address is performed when the registration request packet has not been received from a Foreign Agent.

6. The method as recited in claim 1, wherein the registration request packet further includes a care-of address, the method further comprising:

when it has been detected that network address translation has not been performed, setting up a tunnel between the Home Agent address and the care-of address.

7. The method as recited in claim 1, wherein the registration request packet further includes a care-of address, and wherein detecting from the registration request packet when network address translation has been performed comprises:

determining whether the care-of address is a private address;

wherein network address translation has been performed when the care-of address is a private address.

8. The method as recited in claim 7, wherein determining whether the care-of address is a private address comprises:

determining whether the IP source address is equal to the care-of address;

wherein network address translation has been performed when the IP source address is not equal to the care-of address.

9. The method as recited in claim 7, wherein the IP source address is a public

address.

10. The method as recited in claim 1, further comprising:

updating a mobility binding table with an entry associating the Mobile Node with the tunnel.

11. The method as recited in claim 1, further comprising;

composing a registration reply packet, the registration reply packet including an IP destination address, the IP destination address being equal to the IP source address of the registration request packet; and

sending the registration reply packet to the IP destination address.

12. A computer-readable medium storing thereon computer-readable instructions for establishing communication between a Mobile Node and a Home Agent supporting Mobile IP, comprising:

instructions for receiving a registration request packet from a Mobile Node, the registration request packet including an IP source address and a Home Agent address;

instructions for detecting from the registration request packet when network address translation of the IP source address has been performed; and

instructions for setting up a tunnel between the Home Agent address and the IP source address when it has been detected that network address translation of the IP source address has been performed.

13. A Home Agent supporting Mobile IP, the Home Agent being adapted for establishing communication between a Mobile Node and the Home Agent, comprising:

means for receiving a registration request packet from a Mobile Node, the registration request packet including an IP source address and a Home Agent address;

means for detecting from the registration request packet when network address translation of the IP source address has been performed; and

means for setting up a tunnel between the Home Agent address and the IP source address when it has been detected that network address translation of the IP source address has been performed.

14. A Home Agent supporting Mobile IP, the Home Agent being adapted for establishing communication between a Mobile Node and the Home Agent, comprising:

a processor; and

a memory, at least one of the processor and the memory being adapted for:

receiving a registration request packet from a Mobile Node, the registration request packet including an IP source address and a Home Agent address;

detecting from the registration request packet when network address translation of the IP source address has been performed; and

setting up a tunnel between the Home Agent address and the IP source address when it has been detected that network address translation of the IP source address has been performed.